2: Damm et al. --12 [2] (1909) 1938 Woleaians
116, 164, 178 Ifaluk

You seldom find ringworm. However, Sarfert saw a good many large scars, decayed legs, etc. In contrast to the other Carolines (for example Polowat, Satowal) syphilis occurs here. According to the natives, the life span was formerly very long, but people now die in middle life. The health conditions alone can not be responsible for this situation; it is much more likely that the cultural decline plays just as important a part in the premature decease of the inhabitants.

2: Damm et al. --158 [2] (1909) 1938 Woleaians
116, 164 Faraulep

When Hambruch visited the island, the natives were suffering from a severe epidemic of coughing and catarrh. He also discovered the tropical diseases: elephantiasis (pererâup), ringworm (genisewâu), framboesia (rûf) and syphilis (huâu); there was a high percentage of the latter.

3: Thilenius and Hellwig--263 (1909-10) 1927 Woleaians
116, 164, 755 Elato

On Elato much ethnographic material could be acquired though an influenza epidemic had impaired our work. Many patients had been quartered in the four large canoe houses, and their relatives surrounded and nursed them. The "King" had taken precautions against the spread of the disease; the preventive measures consisted of exorcism ceremonies, dances, and songs. Several times a day mussel-horns were blown.

4: Krämer--73 (1909) 1937 Woleaians
116, 164 Lamotrek

"We," [VMM: says Elisabeth Krämer] "arrived on the island of Lámotrek on November 22, 1909 immediately after a great epidemic which had resulted in a large number of deaths and had killed men, women, and children."

6: Senfft--54
116, 164, 744, 273

(no date) 1905

Woleaians
Woleai

The state of health at the time of my stay there was still so bad that I sent the governmental physician to that island for a longer period. Dysentery seems to be one of the chief causes of death, and the prevalence of this disease can probably be explained by the use of sour toddy; this beverage is made from the axis of the inflorescence of coconut trees. It is very intoxicating and usually produces a desire to quarrel; it is also said to have the effect of an aphrodisiac. I was told that its effect is increased by placing the bottles on the beach in the hot sun and then mixing the juice with salt water.

The number of other diseases is also very high. There are many cases of elephantiasis, eye disease, and paralysis. The report of the governmental physician will treat of matters of health in more detail. Two military policemen have been stationed on the island, and they have been ordered to use all possible means to suppress the use of toddy.

7: Senfft--193
116, 164

(No date) 1904

Woleaians
Faraulep

Ringworm seems to be widespread on this island; I noticed three cases of elephantiasis.

9: Senfft--13 (1903) 1904 Woleaians
116, 164, 162 Lamotrek

The census showed 68 men, 64 women and 68 children, altogether 200 persons; there had been about six deaths in the course of the year, and as far as can be judged from the description, three died from consumption and two from dysentery. What I saw of diseases there were two people suffering from elephantiasis, one blind man, two persons with eye-diseases (one of which could see only at night), one woman with a saddle-nose and two children with abnormally swollen abdomens; lues and gonorrhea are said not to be existent.

Sour toddy causes intestinal disturbances and is one of the factors causing dysentery, a disease which is especially violent in Oleaï. Although the preparation of this drink is now against the law, there are still many natives who drink it.

18: German Government--2997 (1903-04) 1905 Woleaians
116, 164, 744 Woleai

The governmental physician was stationed for two and a half months on the Oleai atoll. He found that the state of health on the whole is better there than on Jap. The natives there suffer chiefly from dysentery, as well as gastric and intestinal diseases in general; there are skin diseases, chiefly ringworm, fewer ulcers, and there is filariasis (elephantiasis).

18: German Government--3313 (1903-04) 1905 Woleaians
116, 164 Woleai

From November 18th until January 20th I was on the Oleai atoll; I found the state of health there much better than that on Jap. There fewer ulcerous skin diseases occur. The most frequent diseases are ringworm, which affects a large percentage of the natives, dysentery, and various types of intestinal ailments which I believe are due to excessive indulgence in sour toddy and fermented breadfruit pudding; there are also the various diseases caused by the filaria worm.

20: German Government--4123
116, 164, 744 (1906-1907) 1908

Woleaians
Woleai

All in all the health of the whites and natives was good. On Oleai an epidemic broke out which in the beginning looked suspiciously like smallpox and which seized almost all the natives. Extensive precautionary measures were taken; the government physician vaccinated all the natives, but determined finally that this was not an epidemic of real smallpox.

28: Spiro--59
116, 776, 753, 164

(1947-48) 1949

Woleaians
Ifalik

"For example, the chiefs at one time were perplexed by the disappearance of a dish of rat poison given them by the navy, which they had set in a canoe house. I suggested that perhaps an alus had absconded with it. They all dismissed this interpretation as unlikely, and agreed with Tom that probably a dog or cat was responsible.

This brings us to the native classifications of disease, which we must describe before we can continue with our discussion of religion, since religion and medicine, as should be obvious now, are inextricable. There are three categories if illness (tamai): (1). Tamai-le-alusengau, illness caused by the alus. (2) Mesilipik or Mesen, diseases caused Mesilipik. (3) Luwegoba, diseases caused by the land."

28: Spiro--59 [2] (1947-48) 1949 Woleaians-1-2
116, 755, 164 Ifalik

"We shall examine the diseases, classified under tamai-le-alusengau and give a short description of the therapy employed. It should be remembered that in all these cases it is believed that the patient is a victim of an attack by the alusengau, in the form of a spirit possession, and the therapy consists of exorcising this alus.

(1). Maliel: This is an infrequent, but fatal illness. It is characterized by dizziness in the head. The patient is given medicine (19) after which his face is covered with a taro leaf, a small flame is held over the leaf, and a chapeng is sung. (20)

(2) Tamai-le-tagurul: This is frequent, but not fatal. It is a very sore back, preventing the person from rising. Medicine of herbs is heated very hot, and is held over his

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"19. All medicine consists of herbs or leaves of specified plants, which are stirred into water or coconut juice, and consumed by the patient. Unfortunately, I did not collect the names of these plants.

20. The chapengs for all the illnesses will follow the complete catalogue of disease."

back. This treatment is given morning and afternoon, and is preceeded by a chapeng.

(3). Metageserae: This is relatively frequent and fatal. It consists of pains in the stomach. (21) The patient is given medicine to drink, and a chapeng is sung, while the healer waves a cocopalm over the patient.

(4) Imailolo: Continuous vomiting. This is neither frequent nor fatal, and is cured by the consumption of medicine.

(5) Metageleperei: This is a sore leg, which is neither frequent nor fatal, and is treated by placing medicine on the leg.

(6) Mesatat: This is relatively frequent, (about the same as 3), and is fatal. It is a form of sea-sickness. The patient is given medicine to drink, a chapeng is sung, while the healer waves a coconut palm over the patient."

"21. Stomach pains cover a multitude of disease entities, and unquestionably include ruptured appendix, from which two of the four deaths we witnessed were caused."

28: Spiro--60
116, 753, 164

(1947-48) 1949

Woleaians
Ifalik

"In the category of diseases caused by the alus are three others, but they are classified separately from the six enumerated above, for these six are fatal, and the others are not. That is, my indication of fatality means that despite treatment a high percentage of the patients will die, though some are cured by the therapy. Were the healer not to perform the cure, they would all die. The others caused by the alus are not fatal, even if the cure were not to be applied. These are a broken bone (ebung), which is set, and a cut (kopitok) on which I have no information. While we were on Ifaluk, all bruises and cuts--and there were many--were brought to us."

28: Spiro--60 [2]
116, 164, 158, 732

(1947-48) 1949

Woleaians
Ifalik

"Finally, the alus are responsible for an incurable disease, the malebush, which includes both abnormal and subnormal mentalfunctioning. There were four cases of feeble-mindedness--all in children--and three of abnormality, both schizophrenics--one paranoid, and one simplex, and a neurotic suffering from agorophobia. Aside from the classification of both the mentally-ill and the mentally-deficient together, it is of interest that the natives classified these cases as aberrant types. The feeble-minded children and the paranoid schizophrenic were possessed by an alusetat, whereas the simple schizophrenic was possessed by the alusefalu. Finally, the agorophobic was possessed by one of the sky alusengau. Unlike the other cases, malebush has no cure."

"The second category of disease comprises those caused by Meselipik. Now Meselipik is a difficult concept to delineate. I don't know whether to refer to Meselipik is 'all same cold', so that those illnesses characterized by chills or fevers are caused by Meselipik. As far as I can determine Meselipik is the personification of chills. His origin or creation is unknown, but he is conceived as subsisting between the islands, and carries illness from other islands to Ifaluk on the winds. He is responsible for four illnesses, all of them infrequent, and all fatal. These are:

(1). Ikolevo: Severe chills, cured by the drinking of medicine.

(2) Izamezelibwex: Intense fever, cured by the drinking of medicine.

(3). Mazetra: Blood in the faeces, probably amoebic dysentary. He is cured by the consumption of medicine, and the singing of the chapeng, while the coconut palm is waved over him.

(4). Gilicha: This characterized by red spots covering the body, cured by the consumption of medicine.

The third category of disease is Luegoba, in which are subsumed all skin diseases, yaws, gangosa, leprosy, which are not fatal, and for which there is no cure. These

are caused by the land, that is, by dirt. (22)

The chapeng for the various diseases follow. These chapeng can best be translated by incantation, as opposed to some others, which are hymns."

"22. A question of great importance, on which the record seems quite clear, is sorcery. Sorcery does not exist, the very concept being foreign to the people. Why should a person desire another's death, and even if he did, how could he achieve his ends? The natives were baffled. Yet, Tom told me that in the past, men could invoke the aid of an alus to bring about someone's death. These were 'very bad man. Plenty house no more people now. (that is, their death's were caused by these sorcerers.). Now, no man savvy.' This may have been a personal belief of Tom's that he had picked up in his travels, and I am inclined to think so, since no amount of research elicited anything but incredulity concerning sorcery."

40: Robertson--50
116, 164, 262

(1875-76) 1877

Woleaians
Woleai

"At the time of the Rupak's visit to Oulleai, the [MR: influenza] epidemic above alluded to was raging. This, together with the scarcity of food, was making great havoc among the people, and Williams, the Englishman, stated that he did not expect more than half the natives would survive."

41: Bates & Abbott N-5 (1953) 1958
OR21 Woleai OR21
Ifaluk

were tucked in with some old clothes, and seemed contented enough.

In general, the people had fine physiques, and seemed very healthy. There was one woman who looked like an albino with freckles, and another old woman had her nose and upper lip completely eroded away, probably from yaws. Yaws was once prevalent in all of these islands, but it yields quickly to penicillin injections and during the post-war period of American control, the Navy medical service instituted an effective campaign of yaws control.

After the first three households had been completed, the party waded back across the shallow pass to "home" at the Fan Nap for lunch. The weather kept us in for the rest of the day. The sky had been completely overcast all morning, with occasional drizzling rains, but without strong wind. In the afternoon the wind became steadily stronger. It started to tear coconut fronds, even green ones, from the trees, and the coconuts themselves were being blown off in large numbers. Don noticed one coconut fall at an angle of about thirty degrees from the vertical in the wind, and he figured that the wind had the force of eight or nine on the Beaufort scale—gale force.

About four o'clock Maroligar and some other men came around to the Fan Nap and lashed poles and boards across the open western end, where it faced the lagoon. A tent that had been unpacked but not set up was dragged over and lashed to the poles, nicely cutting out the wind and rain and making the interior fairly snug and comfortable. But the noise of the wind and waves outside kept increasing. A typewriter could not be heard four feet away, even in this snug interior. (Ted was typing up his notes from the morning, impervious to typhoons.)

We kept worried eyes on the barometer and on the wildly swaying palms. Men everywhere were out battening down their house walls with matting, and running great ropes from the gables, making them fast to the bases of nearby palms. Maroligar, hovering about the Fan Nap with obvious concern about the guests on the island, made it clear that if things got much worse we should move in to one of the houses farther from the shore.

Then suddenly, about five o'clock, the worryings and speculations were disrupted by a wave of excitement. An airplane had been

41: Bates & Abbott N-5 (1953) 1958
OR21 Woleai OR21
Ifaluk

whether they died in infancy (before they could walk) or later. The ninety-two women of childbearing age or older had had 255 children, of which 151 were still living. Of the 104 deaths, sixty were either stillbirths or infant deaths, which is a high infant mortality by modern Western standards, though probably lower than that of most of the crowded Oriental civilizations.

The menstrual history of every woman was public knowledge on Ifaluk because of the custom of retiring to the menstrual huts. Tufai for a woman, then, has the definite meaning that she has passed menopause, has completed her reproductive history. We got the reproductive history of twenty-eight of these elderly ladies. They had born a total of eighty children, or an average of 2.8 each. Eight of them had had no children; one of them had had ten; most had had two, three or four.

The Ifalukians, like most people who lack a written language or system of records, had amazing memories, and I think that our histories for these women are reasonably accurate. It is difficult to interpret them precisely, of course, because of our lack of data on movement to and away from the island, and the like. Clearly, however, the population is hardly maintaining itself. The Ifalukians loved children, seemed always to want children. I could not, however, get away from a suspicion that the low birth rate reflected some sort of deliberate contraceptive or control practice, beyond such conventional taboos as the prohibition of sexual intercourse during periods of fishing. The language problem, the delicacy of the subject and our reluctance to appear to be prying into personal matters, prevented us from getting any definite information.

The population question in the Pacific is a matter of general concern. All of the islands—Polynesian, Micronesian, Melanesian—showed a great decline in population through the 19th century. The islands had probably been almost free of contagious disease before the explorers, traders, whalers and other Westerners started roaming the Pacific, bringing smallpox, measles, venereal diseases, tuberculosis and the like along with them.

The consequences were devastating, and only in recent years have introduced medicine and sanitation started to counteract the effect of the introduced diseases. Until quite recently, I suspect that most cul-

41: Bates & Abbott N-5 (1953) 1958
OR21 Woleai OR21
Ifaluk

tural changes brought by the West—changes in clothing, in housing, in diet, in customs—have tended to increase the disease problem rather than to alleviate it. But that is a pet peeve of mine.

The population history of Ifaluk itself is not clear. Counts by anthropologists during the period of German control showed populations of 281 in 1903 and 208 in 1909, with an estimate of 300 for 1914. The drop between the first two counts may be a result of the typhoon of 1907—not only direct mortality, but also emigration to other islands as a consequence of food shortage.

The older Ifalukians thought that more people had lived on the island formerly; and from their stories I got to thinking that the population might at some time have reached as much as 500. This was based on accounts of times when even coconuts were carefully shared and nothing was wasted. Abandoned household sites in the village areas might be evidence of some population decline and there were stories of an epidemic, soon after the Japanese appeared, when as many as a dozen people died in a day. This, clearly, was smallpox; and the Japanese started vaccination, which has been maintained by the American authorities.

The island, in 1953, was not overpopulated. The land surface of the atoll was about a half a square mile, so the population of 260 people would represent a density of about 520 persons per square mile: a rather dense population, but we must remember that the people of Ifaluk had also the resources of their lagoon and of the surrounding seas. Ifaluk seemed to me to represent an economy of abundance, and this probably in part explains the idyllic living conditions that prevailed. With more people, with the same resources and the same cultural equipment, life might have been more difficult and unpleasant.

The Ifalukians certainly seemed not only happy, but healthy. It is difficult to make exact comparisons between the Ifalukians and other people because of our uncertainty about precise ages, so that one is likely to be averaging fifteen-year-olds with thirty-year-olds. In general, however, the men seemed to be somewhat smaller and lighter than the American average. The tallest man of the island, Sepemal, was a half inch under six feet. The heaviest (Wolpaitig, the number

41: Bates & Abbott N-5 (1953) 1958
OR21 Woleai OR21
Ifaluk

island with two pairs of blue jeans and some T-shirts by way of clothes, and first off had cut the legs of both pairs of blue jeans to convert them into shorts. The trouble was that my legs kept getting scratched in the course of pacing through the underbrush. Then the cuts would get nasty infections. I was ready to abandon my principles and take to long trousers, at least for work in the boondocks.

These infections were another of the flaws in paradise. Staphylococcus would start growing happily in every little skin abrasion, turning it into a nasty sore. The infections yielded fairly readily to antibiotic ointments, but this involved daily sessions of "wound-licking" and an ever-present decoration of band-aids over the scratched skin surfaces. This bothered me particularly because it was a contradiction of my pet theories about the intrinsic healthfulness of the tropical climate.

The whole question of "tropical sores" is a puzzling one. Coral cuts are notoriously troublesome, but on Ifaluk it seemed to make no difference whether the cut was made by coral or by the saw-like margins of the pandanus leaves. It might have been special susceptibility by newcomers to local bacterial strains—but the local people often had similar sores. It might have been some nutritional lack—I had seen similar infections in South America clear up quickly with thiamine injections. Certainly, we, with our canned food, were not living on any ideal diet.

Whatever the cause, the sores were a continuing nuisance, and I was very glad to get Don's extra trousers, much as I hated the idea of trousers—an arctic garment not really adapted to a tropical climate.

While Don was stowing his newly arrived gear, I concentrated on trying to set up a drying cabinet for plant specimens, taking one of the big wooden cases and fixing it so that pressed plants could be stored inside over continuously burning kerosene lanterns, to provide a constant, gentle heat. We would need a record of the plants growing on the island, both wild and cultivated, and there was no use starting plant collections without provisions for drying them.

This drying cabinet was put up in the "laboratory tent," a tarp that was suspended between two coconut palms beside the Fan Nap. A big mosquito net was hung under the tarp and a box to serve as table put inside. We frequently worked there during the day, to get away from